

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PALM SPRINGS-SOUTH COAST FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT
EA Number DOI-BLM-CA-060-0011-0023-EA**

DATE: 3/24/2011

TITLE / PROJECT TYPE: Palo Verde Irrigation District Blythe Mine Expansion Project

CASE FILE / PROJECT NO: CACA-48836

BLM OFFICE: Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262

APPLICANT / PROPONENT: Palo Verde Irrigation District, 180 West Fourteenth Ave., Blythe, CA 92226

LOCATION OF PROPOSED ACTION: North of Blythe, CA in Riverside County
Township 5 South, Range 23 East, Section 27
NW (within) SBM.

PROJECT ACREAGE:

BLM	<u>Existing: 14 acres</u>
	<u>Expansion: 15.42 acres</u>
Other Federal	<u>0</u>
State	<u>0</u>
Private	<u>0</u>
Other (specify)	<u>0</u>

USGS TOPOGRAPHIC MAP: Big Maria Mts. SE, 7.5 Minute Quad
Blythe NE, 7.5 Minute Quad

NEED FOR THE PROPOSED ACTION

Palo Verde Irrigation District (PVID) is applying to expand their existing mining operation for sand and gravel on public lands located approximately one-half mile south of the southerly slopes of the Big Maria Mountains in Eastern Riverside County, California. This area is composed primarily of Jurassic granitic and volcanic rocks, Paleozoic sedimentary rocks, and Mississippian to Cambrian sedimentary rocks. The proposed action is subject to The Federal Land Policy and Management Act of 1976 (FLPMA).

The Federal Land Policy and Management Act of 1976 (FLPMA) requires the BLM to balance two basic parameters when analyzing an action such as this. It is the policy of the United States to manage the public lands in a manner that protects the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values (43 USC 1701). The same Act also requires BLM to manage the public lands in a manner which recognizes the Nation's need for domestic sources of minerals (43 USC 1701), to sell materials at fair market value, and to encourage private enterprise in the economically sound, orderly development of domestic mineral resources (30 USC 21a). PVID's existing permit is pursuant to the requirements of 43 CFR 3604 – Free Use of Mineral Materials. PVID qualifies for a Free Use permit being a quasi-government agency.

The existing mining operation removes sand and gravel to be used on PVID's 470+ miles of dirt canal-bank roads, on 270+ miles of dirt drain-bank roads, in 190+ miles of canals, in 141+ miles of drains and 2800+ structures in its canal and drain systems. Therefore, PVID desires to proceed with the expansion of their existing mining operation. However, the applicant cannot mine and process the sand and gravel without a federal approval per federal regulations 43 CFR 3600. The applicant has submitted a mining Plan of Operation and Reclamation Plan for the mining and reclamation as required per federal regulation 43 CFR 3600. The action is discretionary and can be denied if it is determined to cause unnecessary or undue degradation of the Federal lands as defined by 43 CFR 3600. The BLM may recommend changes in such plans, and is under no obligation to approve deficient plans.

The proposed expansion will continue mining operations for extraction, removal, and processing of alluvial sand and gravel to be used exclusively by PVID for the construction and maintenance of their roads, canals and drains. Mineral resources extracted from public lands would serve to meet these demands. The subject lands are public and the minerals are federally owned.

LAND USE PLAN CONFORMANCE and Other Regulatory Compliance:

In accordance with Title 43 Code of Federal Regulations 1610.5-3, the proposed action and alternatives are in conformance with the following approved land use plan:

The proposed action is in conformance with the land use plan for this area. The plan for this area is the California Desert Conservation Area Plan of 1980, as amended (CDCA).

Two of the four goals stated in the Geology, Energy, and Minerals Element of the CDCA Plan, Chapter 3 are:

- (1) Within the multiple-use management Framework, assure the availability of known mineral resource lands for exploration and development.
- (2) Encourage the development of mineral resources in a manner which satisfies national and local needs and provides for economically and environmentally sound exploration, extraction and reclamation processes.

Public lands identified in the proposal are designated Multiple-Use Class M (Moderate Use). As regards to saleable minerals in Class M, new mineral material sale locations, including sand and gravel sites, require environmental assessment, except as provided for under categorical exclusions in the departmental NEPA guidance.

This area was amended in 2002 under the “Northern and Eastern Colorado Desert Coordinated Management Plan” (NECO). No changes in multiple use class were made for this area under the NECO Plan.

Fish and Wildlife Consultation

The proposed action occurs in habitat for the desert tortoise (*Gopherus agassizi*), a species listed as threatened on both the state and federal levels. A biological opinion, entitled Biological Opinion on the Palo Verde Irrigation District Gravel Pit, Riverside County, California (Reference: 1-6-99-F-73) was issued by the U.S. Fish and Wildlife Service for this existing project on September 2, 1999. This biological opinion will be updated for this proposed project expansion in consultation with the U.S. Fish and Wildlife Service.

Cultural Resources Review

Under the Federal Land Policy and Management Act of 1976 (FLPMA), the BLM is charged with managing public lands in a manner that will “protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values”. Section 106 of the National Historic Preservation Act, as implemented at 36 CFR Part 800, requires Federal agencies to take into account the effects of their undertakings on historic properties. The Revised State Protocol Agreement (2007) between the California State Director of the Bureau of Land Management (BLM) and the California and Nevada State Historic Preservation Officers (SHPOs) defines the roles and relationships between the SHPOs’ offices and the BLM under the National Programmatic Agreement. The State protocol is intended to insure that the California BLM operates “efficiently and effectively in accordance with the intent and requirements of the NHPA.” The protocol streamlines the 106 process by not requiring case by case consultation with the SHPO on most individual undertakings.

Cultural resource inventories were completed for the existing 14-acre operation

previous to authorization in 1996. A cultural resource investigation and survey was conducted by L & L Environmental for the proposed 15.42 acre expansion area. Native American Consultation was initiated on March 4, 2011, including release of the cultural report to Tribes.

Surface Mine and Reclamation Act (SMARA)

The Surface Mine and Reclamation Act (SMARA) of 1975 is a State of California law pertaining to the mine reclamation. SMARA is administered by the respective county planning department. The Riverside County Planning Department is the approving agency on the PVID reclamation plan for this proposal.

(Vicinity Map, which was included here, is available as a separate link from web page.)

DESCRIPTION OF THE PROPOSED ACTION and ALTERNATIVES

Background

Palo Verde Irrigation District (PVID) has requested an expansion to their existing mining operation of sand and gravel in the southerly foothills of the Big Maria Mountains.

The area within the mining boundary has been and is currently being mined by PVID for sand and gravel. The total area of the existing mining operation and the expansion is 29.4 acres. The existing mining operation consists of 14± acres and is being mined as Project #CACA-27960. The Plan of Operation proposes to expand the existing mine by 15.4± acres under #CACA-48836.

a) Proposed Action

PVID has been mining aggregate materials at this location since 1964. Based on previous operations, PVID has determined that the expansion of their existing mine from 14 acres to a total of 29.4 acres will serve their future need for aggregate materials. This expansion represents an increase of 15.4± additional acres. Mining operations at this location are anticipated to remain at this location for an additional 35 to 38 years.

The operation would continue to be an open pit mine utilizing rubber-tired front-end loaders, dozers, a water truck, as well as 10-yard dump and pup trucks. A motor grader would be utilized to maintain haul and access roads. A dry screening plant will be placed in the pit every 18 months or so, for approximately 8 weeks, to process and stockpile material. The mined material would then be removed from stockpiles, by front end loaders, and loaded onto dump trucks to be transported to PVID's roads, canals and projects. Mining operations would take place during the standard 5-day work week, from 6:30 a.m. to 5:00 p.m., except during operation of the screening plant when operations will be extended to a 6-day week. No permanent structures are proposed on this site other than the existing outhouse, tortoise fence and gate.

The proposed expansion would begin in the existing pit and expand within the existing footprint to the north and east (see Sheet Map No 3, 4 and 4a in Appendix A). Exterior mine walls would be cut at a maximum slope angle of 3:1 during mining. The working face of the mine would be cut at a maximum slope angle of 1:1 during mining operations. A mining setback, varying 20 to 25 feet from the mine boundary, would be used as a perimeter access road.

Mining of Phase 1 is anticipated to last 23 years and will disturb a total of 20.6 acres. Mining of Phase 2 is anticipated to last 14 years and disturb an additional 8.8 acres. An average of 2,450 cubic yards of gravel would be removed per month with an annual production of 29,400 cubic yards. The estimated reserves of approximately 1,087,800 cubic yards are based on design of the revised and expanded mine. The actual life of the mine and timing for each mining phase is contingent upon PVID demands.

The access road from Hwy 95 would continue to be maintained by PVID for the life of the project. This road would routinely be graded at a width of 30 feet, and water utilized to suppress dust. A 20-mile-per-hour speed limit would be posted and enforced on this access road to avoid desert tortoise mortality associated with vehicular use of the road.

A desert tortoise exclusion fence would be installed around each phase as mining progresses. The area between the existing tortoise fence and the new tortoise fence would be cleared of any desert tortoises by a qualified and approved biologist prior to removing the existing fence. The new tortoise fence would be in place prior to starting any mining operations in the proposed expansion areas. All requirements in the existing Biological Opinion on the Palo Verde Irrigation District Gravel Pit, Riverside County, California (Reference: 1-6-99-F-73), dated September 2, 1999, would apply to the expansion operations. Plants in the expansion areas will be salvaged and replanted in reclaimed area before mining starts in that area.

Product stockpiles would be placed in the pit and away from high wind paths in order to decrease PM-10 levels. Not screening material when winds exceed 20 mph in the work area, restricting vehicle speeds on the access road to 20 mph, and using water as a dust suppressant on stockpiles, pit area, pit roads and the access road are additional proposed measures designed to reduce fugitive dust (PM-10) levels.

Reclamation of the site would take place on a continual basis to mitigate disturbance related to the mining activities and be coordinated with the extraction of gravel. The final step would be reclamation of the site. Reclamation would follow the mining by commencing at the northerly slopes of the mine and concluding with the reclamation of the southerly slope. Upon completion of the mining, PVID would smooth and recontour the pit walls to a 3:1 or flatter slope. The slope will be finished by furrowing to assist in rainfall retention and aid in the revegetation process. The final result of the reclaimed area would permit open space uses that include but are not limited to recreation and wildlife habitat. The area would continue to be managed by the Bureau of Land Management. See Sheet Map No 6 in Appendix A for the complete proposed final reclamation plan.

b) No Action Alternative

The Proposed Action would not be undertaken. Existing management and use of the site would continue subject to applicable statutes, regulations, policy and land use plans. PVID would cease mining in this pit once suitable material could no longer be feasible mined.

AFFECTED ENVIRONMENT

1. Area Description

The project site is located in Eastern Riverside County, approximately 7.25 miles north of the intersection of Highway 95 (Intake Blvd.) and Interstate 10 in Blythe, Ca. and approximately 0.75 miles northwesterly of Highway 95 at Latitude 33°42'18", Longitude 114°33'36". The mine is located on the northerly side of highway 95 on public land managed by the BLM.

The landscape at the site bears evidence of the current mining activities, but the surrounding area remains undisturbed native landscape. The vegetation includes primarily creosote bushes, brittlebush, and other small desert grasses and shrubs.

AIR QUALITY

This proposal is within the Mojave Desert Air Basin (MDAB). Elevation is approximately 450 feet above sea level. Relatively high daytime temperatures; large variations in relative humidity; large and rapid diurnal temperature changes; occasional high winds; and sand, dust, and thunderstorms characterize the climate. The aridity of the region is influenced by a sub-tropical high-pressure system typically off the coast of California and topographical barriers that effectively block the flow of moisture to the region. The Colorado Desert experiences two rainy seasons per year. The first occurs during the winter, and the second is the summer monsoon season.

The monthly average high temperature in Blythe is 109°F in July and the lowest average monthly temperature is 39° F in January and December (WC 2009). Total rainfall in Blythe averages just less than four inches per year with about 50 percent of the total rainfall occurring from December through March, and about 30 percent occurring during the August/September summer monsoon season.

Wind data from the Blythe Airport for the years 2002 to 2004 and 2006 to 2008 indicate the April to November winds are predominately out of the west and southwest while the November to March winds are mostly from the northeast. This is due to the proximity of the MDAB to coastal and central regions of the state and the blocking nature of the Sierra Nevada Mountains to the north. The mountain passes are the main channels for the air masses (MDAQMD 2009). Mixing heights in the area, which represent the altitudes where different air masses mix together, are estimated to be on average 230 feet (70 meters) in the morning to as high as 5,250 feet (1,600 meters) above ground

level in the afternoon.

The Federal Clean Air Act and the California Clean Air Act both require the establishment of standards for ambient concentrations of air pollutants, called Ambient Air Quality Standards (AAQS). The state AAQS, established by the California Air Resources Board, are typically lower (more protective) than the federal AAQS, which are established by the United States Environmental Protection Agency (U.S.EPA). The Mojave Desert Air Quality Management District (MDAQMD) is the responsible permitting authority for air pollutants in the Project Area.

Currently the ambient air quality within the MDAB is classified in the nonattainment category for ozone and fugitive dust PM10 criteria. According to the Northern & Eastern Colorado Desert Coordinated Management Plan, the ozone standard is exceeded due to long distance transport of pollutants from the Los Angeles Basin, while the PM10 standard is due to natural sources found in a desert environment and various land uses. These uses include agriculture, vehicular use on unimproved roads and other human activities.

The MDAB is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The Riverside County portion of the MDAB is designated as non-attainment for the state ozone and PM10 standards. This area is designated as attainment or unclassified for all federal criteria pollutant ambient air quality standards and the state CO, NO₂, SO₂, and PM_{2.5} standards. Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between directly emitted nitrogen oxides (NO_x) and hydrocarbons (Volatile Organic Compounds [VOCs]) in the presence of sunlight. Pollutant transport from the South Coast Air Basin (Los Angeles Area) is one source of the pollution experienced in the eastern Riverside County portion of the MDAB (SCAQMD 2007 as cited in the CEC RSA June 2010).

PM10 can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. MDAB is classified as non-attainment for state PM10 standards and unclassified for the federal PM10 standard. It should be noted that exceedance does not necessarily mean violation or nonattainment, as exceptional events do occur and some of those events, which do not count as violations, may be included in the data. The MDAB is designated as nonattainment for the state PM10 standard.

Fine particulate matter, or PM_{2.5}, is derived mainly either from the combustion of materials, or from precursor gases (SO_x, NO_x, and VOC) through complex reactions in the atmosphere. PM_{2.5} consists mostly of sulfates, nitrates, ammonium, elemental carbon, and a small portion of organic and inorganic compounds. The entire MDAB is classified as attainment for the federal standard and, in the GSEP area, is designated unclassified for the state PM_{2.5} standards. This divergence in the PM10 and PM_{2.5} concentration levels and attainment status indicates that a substantial fraction of the ambient particulate matter levels are most likely due to localized fugitive dust sources, such as vehicle travel on unpaved roads, agricultural operations, or wind-blown dust.

BIOLOGICAL RESOURCES

Based on field observations and baseline transect results, creosote bush (*Larrea tridentata*) is the most common shrub on the slopes, and woolly plantain (*Plantago ovata [insularis]*) was by far the most abundant herb. Other successful plants include barrel cactus (*Ferocactus cylindraceus var. cylindraceus*) and foxtail cactus (*Coryphantha alversonii*). Beavertail cactus (*Opuntia basilaris*) was less common. Overall shrub cover in the natural areas was determined to be very low with a mean shrub cover of 3.0 percent, a mean shrub density averaging 234 shrubs/acre; and an average shrub species richness of 2.2 species per 50m² quadrant. Native herbs averaged 34% cover, with woolly plantain accounting for most of that cover.

Table 1. List of plant species identified on the PVID Blythe Mine Expansion site.

This list represents plant and wildlife species detected onsite during a desert tortoise survey conducted on the site in the spring of 2010. Although not all plants that may have been present onsite were necessarily observable (or identified) during this study, 2010 was a good year for precipitation and overall growth.

Plants	
Scientific Name	Common Name
Asclepiadaceae	Milkweed Family
<i>Sarcostemma cynanchoides</i>	Climbing Milkweed
Asteraceae	Composite Family
<i>Ambrosia dumosa</i>	White Bursage, Burrobush
<i>Bebbia juncea</i>	Sweetbush
<i>Calycoseris wrightii</i>	White Tackstem
<i>Chaenactis</i> sp.	Pincushion
<i>Encelia farinosa</i>	Brittlebush
<i>Perityle emoryi</i>	Desert Rock Daisy
<i>Rafinesquia neomexicana</i>	Desert Chicory
Boraginaceae	Borage Family
<i>Cryptantha maritima</i>	White-haired Forget-me-not
<i>Pectocarya recurvata</i>	Pectocarya
Cactaceae	Cactus Family
<i>Coryphantha alversonii</i>	Foxtail Cactus
<i>Ferocactus cylindraceus</i> v. <i>cylindraceus</i>	Barrel Cactus
<i>Opuntia basilaris</i>	Beavertail Cactus
Fabaceae	Legume Family
<i>Cercidium microphyllum</i>	Small leaf Palo Verde
<i>Lupinus arizonicus</i>	Arizona Lupine

Fouquieriaceae	Ocotillo Family
<i>Fouquieria splendens</i>	Ocotillo
Hydrophyllaceae	Waterleaf Family
<i>Phacelia crenulata</i>	Phacelia
Lamiaceae	Mint Family
<i>Hyptis emoryi</i>	Desert Lavender

Desert dry wash woodlands occur in local washes in the vicinity of the project area, especially in downslope areas. This sensitive vegetation community, characterized by an open to densely covered, drought-deciduous, microphyll riparian scrub woodland, is dominated by an open tree layer of blue palo verde, honey mesquite, ironwood, and smoke tree with an understory of big galleta grass (*Pleuraphis rigida*), desert starvine (*Brandegea bigelovii*), and intermixed creosote scrub (*Larrea tridentata*) and Russian thistle (*Salsola tragus*). This habitat provides value to various species of wildlife, including coyote (*Canis latrans*), fox (either kit fox or gray fox) and bobcat (*Lynx rufus*), in the form of food, cover, dispersal, and refuge habitat.

Animal species likely to occur in this vicinity are those typical of the alluvial benches located above the Colorado River in Southeast California. These include the common raven (*Corvus corax*), morning dove (*Zenaida macroura*), blacktailed gnatcatcher (*Poliophtila melanura*) black-throated sparrow (*Amphispiza bilineata*), Gambel's quail (*Callipepla gambelli*), whitetail Antelope ground squirrel (*Ammospermophilus leucurus*), kangaroo rat (*Dipodomys sp.*), desert woodrat (*Neotoma lepida*), western whiptail lizard (*Cnemidophorus tigris*), speckled rattlesnake (*Crotalus mitchellii*) and side-bloched lizard (*Uta stansburiana*). The side-blotched lizard (*Uta stansburiana*), desert spiny lizard (*Sceloporus magister*) and red racer (*Masticophis flagellum*) were observed during surveys of the area.

Desert Tortoise

The desert tortoise was state-listed in California as threatened on August 3, 1989. The Mojave population was federally-listed as threatened on April 2 1990, and critical habitat was designated on February 8, 1994. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California. Desert tortoises are well adapted to living in a highly variable and often harsh desert environment. They spend much of their lives in burrows, even during their seasons of activity, which generally coincides with the greatest annual forage availability. In late winter or early spring, they emerge from over-wintering burrows and typically remain active through fall. Activity does decrease in summer, but tortoises often emerge after summer rain storms to drink.

The majority of threats to the desert tortoise and its habitat are associated with human

land uses. Many of those identified in the 1994 Recovery Plan, and that formed the basis for listing the species as threatened; continue to affect the tortoise today. Some of the threats identified at the time of listing include urbanization, upper respiratory tract disease and possibly other diseases, predation by common ravens and domestic and feral dogs, unauthorized off-road vehicle activity, authorized vehicular activity, illegal collecting, mortality on paved roads, vandalism, drought, livestock grazing, feral burros, non-native plants, changes to natural fire regimes, and environmental contaminants.

A desert tortoise presence/absence survey of the project area was completed by L&L Environmental, Inc. on March 14 and April 6, 2010. A protocol survey was conducted on March 14, 2010 with an additional site visit on April 6, 2010 to further explore and photograph the drainages and vegetation. The survey area contains several well established washes and ample wildflowers/vegetation which can provide a good food source for desert tortoises. Numerous areas in the sides of washes could shelter desert tortoises. Although the site has suitable habitat that could potentially support a desert tortoise population, no tortoises, burrows, or other tortoise sign was identified in the project area or identified zone of influence.

Other Special Status Species

The following are special status species identified in the NECO Plan that are likely to occur with the project area or surrounding lands:

PLANTS:

Corypantha alversonii (foxtail cactus).....previously called *Escobaria*
Proboscidea althaeifolia (desert unicorn plant)

MAMMALS:

Felis concolor (mountain lion)
Odocoileus hemionus (burro deer)
Neotoma albigula venusta (Colorado Valley woodrat)
Myotis velifer (cave myotis)
Macrotus californicus (California leaf-nosed bat)
Corynorhinus townsendii (Townsend's big-eared bat)

REPTILES:

Lichanura trivirgata (rosy boa)
Scaphiopus couchii (Couch's spadefoot toad)

BIRDS:

Toxostoma crissale (Crissal thrasher)
Melanerpes uropygialis (Gila woodpecker)
Pyrocephalus rubinus (vermillion flycatcher)
Charadrius montanus (mountain plover)

CULTURAL RESOURCES:

A cultural resource investigation and survey was conducted by L & L Environmental for the proposed expansion area. No resources potentially eligible for the National Register of Historic Properties were identified within the area of potential affect for this project. Two previously recorded cultural resources were recorded within the expansion area but are either partially destroyed or could not be relocated and are assumed destroyed. No additional archaeological studies were recommended as a result of this study.

VISUAL RESOURCES

This area is characterized by low hills and washes, little vegetation, no water, and subtle color variations. Existing modifications to the scenery in the vicinity of the project area are so extensive that scenic qualities are substantially reduced. These include two electrical transmission lines, an existing gravel pit, a proliferation of dirt roads, a canal, and the state highway. Located across the canal and within a mile south of the project are agricultural fields and related rural development. This development extends south for six miles to the community of Blythe, California.

The proposed project is located on public lands that have not been assigned formal Visual Resource Management (VRM) classifications through the land use planning process. Where no formal VRM classes have been assigned, it is BLM policy that interim VRM objectives be established, consistent with the guidelines provided in BLM Manual 8410 and using the VRM analytical system. Since an interim classification has not been assigned to the project area, an interim classification for the site will be established as part of this EA and is provided below. The corresponding VRM data sheets are included in Appendix B of this EA.

A visual resource inventory of scenic quality, viewer sensitivity levels, and distance zones for the project area was completed as part of the Draft Programmatic Environmental Impact Statement for Solar Energy Study Areas in Six Southwestern States (Solar PEIS). The Visual Resource Inventory is a process to determine visual (scenic) values within the Field Office at a specific point in time. Visual Resource Inventories are conducted according to the BLM Manual Handbook H-8410-1. There are three primary components to a visual resource inventory:

- Scenic Quality Evaluation
- Sensitivity Level Analysis
- Delineation of Distance Zones

Based on these three components, BLM-administered lands are placed into one of four Visual Resource Inventory Classes which represent the relative value of the visual resources. Class I and II are the most valued, Class III represents a moderate value, and Class IV represents the least value.

The project area is located in the Chuckwalla Valley Scenic Quality Rating Unit (SQRU). The Scenic Quality Field Inventory Form (8400-1) for this SQRU is included in Appendix

B. The Inventory Class for the Chuckwalla Valley SQRU is VRI Class III. The Interim VRM Management Class has been determined by combining the Inventory Class with the Multiple Use Class. The project area is on public lands designated Multiple-Use Class M (Moderate Use) under the CDCA Plan. The appropriate levels of management and protection of visual resources are to be commensurate with the objectives stated in the multiple-use class guidelines. Multiple-Use Class M provides for a wide variety of present and future uses such as mining with mitigation as appropriate to conserve desert resources.

Combining the above evaluations result in an Interim Visual Resource Management (VRM) Class IV. This is considered appropriate due to the existing use of the site as a gravel mining operation and similar adjacent authorized uses. The management objective of VRM Class IV areas is to provide for activities which require major modification of the existing character of the landscape. These management activities may dominate the view and form the major focus of viewer attention, but should repeat the form, line, color, and texture of the characteristic landscape.

WILDERNESS

The project area is located .25 miles south of the southern boundary of the Big Maria Mountains Wilderness as shown in Map #1. Wilderness areas are congressionally designated and are managed pursuant to the federal Wilderness Act of 1964 (16 USC 1131–1136) and the specific legislation establishing the wilderness. BLM is authorized to manage wilderness areas for the public's use and enjoyment in a manner that will leave such areas unimpaired for future use and enjoyment as "wilderness" by providing for their protection and the preservation of their wilderness character, and by gathering and disseminating information about their use and enjoyment. The Wilderness Act defines "wilderness" as an "area where the earth and its community of life are untrammelled by man." Wilderness is defined as having four primary characteristics, including the following:

- a natural and undisturbed landscape;
- extensive opportunities for solitude and unconfined recreation;
- at least 5,000 contiguous acres; and
- feature(s) of scientific, educational, scenic, and/or historic value (US Code 2009).

Designated under the California Desert Protection Act of 1994, the Big Maria Mountains Wilderness encompasses 47,570 acres and is characterized by gently sloping bajadas rising to numerous rough and craggy peaks that are separated by steep canyons.

MINERALS

The project site is located on the southerly foothills of the Big Maria Mountain range, which is composed primarily of Jurassic granitic and volcanic rocks, Paleozoic sedimentary rocks, and Mississippian to Cambrian sedimentary rocks. Numerous faults are located in the area, including two major strike-slip (lateral movement) faults.

Intrusive and extrusive rocks, such as granite and volcanic rocks have pushed to the surface at, near and surrounding, pre-existing older rocks. Surface strata are suitable for the mining of aggregate materials of the type utilized by PVID. No other valuable mineral deposits are known to exist within or adjacent to this project area.

SOILS AND TOPOGRAPHY

Topographically, the site contains flatlands cut with shallow to deeply incised drainages. Jurisdictional drainages parallel the east and west boundaries of the project site with minor intersecting drainages occurring between. The eastern and the southwestern drainages are mapped blue-line streams. The southern portion of the study area contains disturbed and undisturbed desert pavement with little to no vegetation. The northern portion of the study area contains less desert pavement, but includes rocky outcroppings, deeply incised steep-sided drainages with greater disturbance and more vegetation. A ridgeline rises to the north and west of the project area. Periodic cavities and eroded “hollows” occur in the ridgeline material and in the sides of the drainages.

Elevation within the project area ranges from 440 to 560 feet above mean sea level (AMSL), with the highest point located at the northernmost end of the project area and the lowest point at the southwestern corner. Surrounding features are of varying topographic relief in association with the Big Maria Mountain foothills and canyons. Approximately 0.75 miles south of the site, topography changes to relatively flat lands associated with the Palo Verde Valley and the Colorado River.

Soils on the project site are mapped by the Natural Resources Conservation Service (2010) as a mixture of badland (BaG), Carrizo gravelly sand (Ce), Rock land (RdG) and Chuckawalla very gravelly silt loam (Ch). Soils observed on the site ranged from mostly sandy to mostly rocky-loamy with and without cryptobiotic crusts. Clay soils are not identified as occurring on the project site and only relatively thin cracked soils are observed in a few places where shallow (1”-2” maximum depth) potholes or depressions are scattered along access roads.

Portions of the project area are characterized by nearly solid rock surfaces with little to no exposed top soil. Desert pavement sections offer little available top soil. The most likely sources of topsoil are in the washes where sandy/clay soils exist.

HYDROLOGY

The existing operation is not located in a wash; however, there are drainages along the westerly edge of the existing mine and a drainage wash along the easterly edge of the expansion area. The westerly and easterly washes have drainage areas of approximately 224 acres and 480 acres respectively. The rainfall intensity for the area is estimated at 0.86 inches/hour based on a 10-year – 1-hour storm event and 1.48 inches/hour for a 100-year – 1-hr storm event. During fall and winter months, rainfall would sheet-flow off the surrounding hillsides towards the existing washes.

The design of the gravel pit does not allow for any off-site storm water to enter the pit from either wash and does not allow any storm water to flow out of the pit into either wash.

The material being mined is sand and gravel which allows fast percolation of water due to the large fractures usually associated with this type of material. An earthen berm (see Sheet Map #3 in Appendix A) would be constructed inside the tortoise exclusion fence along the westerly side of the pit to prevent storm water from entering the pit from the wash. Rip-rap will be placed on the westerly face of the berm and extended below the existing wash grade to mitigate any possible scour erosion and undermining of the west bank of the pit. A protective berm will not be needed for the east wash since the easterly edge of the pit will be setback approximately 25 feet from the top of the wash.

RECREATION RESOURCES

The project area has a low potential for recreation activities. Historically, this area has been used for casual recreation such as firearms shooting. Other human uses and impacts in the immediate vicinity, such as two electrical transmission lines, a gravel pit, a proliferation of dirt roads, a canal and the state highway, degrade opportunities for scenic viewing and other recreational pursuits.

2. Land Status

a) Land Use Classification:

Public lands identified in the proposal are designated Multiple-Use Class M (Moderate Use). The land use plan for this area was amended in 2002 under the "Northern and Eastern Colorado Desert Coordinated Management Plan" (NECO). No changes in multiple use class were made for this area under the NECO Plan. Multiple use Class M is based upon a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources which permitted uses may cause.

The project area is adjacent to the boundary for the Big Maria Mountains Wilderness. This area is managed to protect wilderness values under the California Desert Protection Act of 1994.

b) Valid Existing Rights:

This pit expansion project is entirely on BLM lands. Portions of the access road are on lands administered by the U.S. Bureau of Reclamation. To valid existing rights would be affected by this proposal.

ENVIRONMENTAL CONSEQUENCES

1. Elements of the Human Environment

The following table summarizes various elements of the human environment subject to requirements specified in statute, regulation, or executive order. Elements for which there are no impacts will not be discussed further in this document.

Environmental Element	Proposed Action	No Action Alternative
Air Quality	Potential impact	No impact
ACEC's	N/A	N/A
Cultural Resources	No Impact	No impact
Native American Concerns	Potential impact	No impact
Farmlands	N/A	N/A
Floodplains	N/A	N/A
Energy (E.O. 13212)	N/A	N/A
Minerals	Potential impact	No impact
T&E Animal Species	Potential impact	No impact
T&E Plant Species	No impact	No impact
Invasive, Nonnative Species	Potential impact	No impact
Wastes (hazardous/solid)	Potential impact	No impact
Water Quality (surface and ground)	No impact	No impact
Wetlands/Riparian Zones	Potential impact	No impact
Wild and Scenic Rivers	N/A	N/A
Wilderness	Potential impact	No impact
Environmental Justice	N/A	N/A
Health and Safety Risks to Children	N/A	N/A
Visual Resource Mgmt.	Potential impact	No impact

2. Discussion of Impacts

AIR QUALITY

As soils are disturbed and become susceptible to wind erosion, there would be a very slight increase in the fugitive dust levels in the vicinity of this site. Vehicles and heavy equipment associated with project, including placement of overburden and topsoil on surface soils, would result in localized increase in dust (PM-10) levels. There would be a decreased level of potential PM-10 release from the product stockpiles due to their placement within the pit and away from high wind paths. Additional planned mitigation would decrease PM-10 levels including not screening material when winds exceed 20 mph in the work area, restricting vehicle speeds on the access road to 20 mph, and using water as a dust suppressant on stockpiles, pit area, pit roads and the access road. Overall, these fugitive dust emissions would have a negligible impact on overall PM-10 levels in the general vicinity of this project.

BIOLOGICAL RESOURCES

a) Plants

Plants located within the 15.42 acres would be killed and their habitats degraded. This site degradation would last for 30 or more years after site closure due to the low rainfall of the region, degradation of soil structure and the potential loss of top soil. After reclamation, the site would gradually be recolonized by pioneer plant species. These species would modify the site so as to allow for later successional species such as creosote bush (*Larrea tridentata*), blue palo verde (*Cercidium floridum*), desert lavender (*Hyptis emoryi*), and burro bush (*Ambrosia dumosa*).

During the mining operation, use of water at the site for processing of material and for dust abatement would likely result in localized growth of non-native and invasive plant species such as tamarisk trees. Once established, these invasive species would provide a seed source for continued invasion in the general area. Many of these invasive species substantially degrade habitat for native plants and animals. These impacts are especially severe after establishment of tamarisk trees that out-compete native plant species, over-utilize water supplies in washes, and decrease suitable habitat for animal species.

b) Animals

Animals presently residing within these 15.42 acres would be displaced, injured or killed during the mining operation and their habitat degraded. Increased human activities resulting from the operation would displace some species from the vicinity of the site. After time and upon site reclamation, these species would gradually reoccupy this site as vegetation becomes established.

c) Special Status Species: Desert Tortoise

Although no desert tortoises or sign were found within and adjacent to the project area, this area was determined to have habitat suitable for tortoise occupation. As proposed, all requirements in the existing Biological Opinion on the Palo Verde Irrigation District Gravel Pit, Riverside County, California (Reference: 1-6-99-F-73), dated September 2, 1999, apply to the expansion operations. These requirements include designation of a field contact representative responsible for implementation of desert tortoise requirements, tortoise-proof fencing and gates, relocation of any tortoises by qualified biologists, 20 mph speed limit, checking beneath parked vehicles for tortoises, trash handling and human sanitation provisions, employee education, no off-road travel, removal of raven perches, firearms and dog prohibitions, removal of road berms, various reporting requirements, and notification requirements for any tortoise injuries or mortality.

These measures, as required under the Biological Opinion (1-6-99-F-73), would reduce or eliminate the direct impacts to desert tortoises associated with this type and level of habitat disturbance.

This expansion proposal would result in the loss of 15.42 acres of desert tortoise habitat. Habitat fragmentation results in loss of food and shelter, displaces resident tortoises into areas occupied by other tortoises, alters social and other behaviors, and generally increases stresses within these desert tortoises. Over time, fragmentation of this habitat would result in the decline of desert tortoises in this general area. However, requirements to compensate for loss of Category III desert tortoise habitat at a 1:1 ratio, under the NECO Plan, will allow for no net loss of habitat.

In addition, water supplies associated with this operation would attract ravens that prey on immature tortoises. Preferred food sources within the general vicinity of this project could decrease as a result of the increase in less palatable weed plant species associated with mine related surface disturbances. This operation would also become a seed source for these invasive species resulting in an off-site increase in these unpalatable plants.

VISUAL RESOURCES

The proposed action would meet the objectives of Interim VRM Class IV. The management objective of VRM Class IV areas is to provide for activities which require major modification of the existing character of the landscape. These management activities may dominate the view and form the major focus of viewer attention, but should repeat the form, line, color, and texture of the characteristic landscape. Mitigations measures are to include:

- Topsoil and vegetation shall be stripped and stockpiled separately from the sand and gravel storage areas. Stored topsoil shall be clearly marked and protected throughout the life of the operation. Topsoil shall be spread over contoured areas upon the completion of site reclamation.

- No surface disturbance is authorized outside the project boundary area especially within the wash area.
- At the completion of the project or phase, the site shall be re-contoured in compliance with the approved Riverside County Reclamation Plan.
- The berms of the road shall be maintained through blading in their current flat condition. Areas with substantial vegetation shall not be bladed flat.

WILDERNESS

Visitor experience within the south portion of the Big Maria Mountains Wilderness could be affected by the proposed action. This southern boundary of this wilderness is within .25 miles of the project. The Big Maria Mountains Wilderness does not have maintained trails or trail heads, and is scarcely visited by the public. Nevertheless, because the wilderness area is physically accessible, it may be visited on rare occasions by backcountry hikers. Such visitors within sight of the project area could experience negative impacts from noise, fugitive dust, vehicle movement, and other “non-natural” activities associated with this mining operation. These impacts could affect wilderness users’ perception of solitude, naturalness and unconfined recreation.

3. Mitigation Measures

- a) Topsoil and vegetation shall be stripped and stockpiled separately from the sand and gravel storage areas. Stored topsoil shall be clearly marked and protected throughout the life of the operation. Topsoil shall be spread over contoured areas upon the completion of site reclamation.
- b) No surface disturbance is authorized outside the project boundary area especially within the wash area.
- c) Speed limit and safety signs shall be used and maintained on site.
- d) No hazardous materials or substances shall be used or stored on site without the specific written authorization of the authorized officer. Diesel fuel, solid waste, and waste oil shall not be discharged or buried on site. The operator is required to quickly clean up and properly dispose of any waste spill, or discharges.
- e) The boundaries of the project area shall be clearly delineated by signs and marker to insure that no mining vehicles or equipment are outside of the marked perimeter.
- f) At the completion of the project or phase, the site shall be re-contoured in compliance with the approved Riverside County Reclamation Plan.

g) These measures, as required under the Biological Opinion (1-6-99-F-73), are:

- The active portion of the pit area shall be enclosed with tortoise fencing as specified in the Opinion.
- A tortoise-proof gate shall be constructed with the fence to allow vehicle access into the active pit area. The gate shall remain closed except for the immediate passage of vehicles. The fence and gate shall be checked at least monthly and maintained when necessary by the PVID to ensure its integrity.
- After construction of the fence a qualified biologist shall inspect the area within it to ensure that it contains no tortoises. All tortoises found shall be given a temporary mark and removed from the enclosure and placed outside the fence to a safe location.
- The operator shall maintain a speed limit of 20 miles per hour when traveling either downhill or uphill along the access road.
- The operator shall instruct drivers to check beneath their vehicles for tortoise prior to moving vehicles. If a tortoise is present, the worker shall carefully move the vehicle only when necessary and when the tortoise would not be injured by such movement. The driver shall wait until the tortoise moves to a safe position if moving the vehicle would endanger the tortoise.
- All trash shall be removed from the site on a daily basis, as any accumulation may attract tortoise predators (e.g. ravens).
- A portable latrine shall be installed on the premises for employee use. Project personnel shall be instructed not to defecate on the site.
- Employees shall be educated by PVID as to the threatened status of the tortoise and made familiar with the terms of this biological evaluation.
- The operator and mine employees shall not engage in any cross-country travel. All vehicular travel shall remain on established roads.
- No firearms or pets shall be allowed on the project site, at any time.
- The berms of the road shall be maintained through blading in their current flat condition. Areas with substantial vegetation shall not be bladed flat.
- The operator shall maintain a log of all tortoise sightings, injuries and mortalities. BLM shall be notified within 72 hours of any tortoise mortalities or injuries.

4. Residual Impacts

In addition, capturing, handling, and relocating desert tortoises from the proposed site after the installation of exclusion fencing could result in harassment and possibly death or injury. Tortoises could die or become injured by capture and relocation if these methods are performed improperly, particularly during extreme temperatures, or if they void their bladders. If multiple desert tortoises are handled by biologists without the use of appropriate protective measures, pathogens could be spread among the tortoises, both resident and relocated or translocated animals. For those tortoises near but not within the project area, removal of habitat within a tortoise's home range or segregating individuals from their home range with a fence would likely result in displacement stress that could result in loss of health, exposure, increased risk of predation, increased intraspecific competition, and death. Tortoises moved outside their home ranges would likely attempt to return to the area from which they were moved, therefore making it difficult to isolate them from the potential adverse effects associated with project construction.

5. Cumulative Impacts

The areas surrounding the proposed action area has been extensively impacted by mining operations over the last 60 years. In the southern portion of this section Crawford Associates operates a sand and gravel operation impacting approximately 44 acres; to the east Crawford Associates maintains a private sand and gravel processing plant east of approximately 10 acres; to the west Riverside County operates a sand and gravel pit impacting more than 60 acres. An old California Department of Transportation pit lies about 2 miles to the northeast of this site, impacting about 15 acres. These mining activities have cumulatively degraded the quality of plant and wildlife habitat in this vicinity.

The impacts are expected to expand quickly over the next 5 -10 years as demands for the aggregate materials increases due to renewable energy development around the Palo Verde Valley. The impacts are anticipated to increase PM-10 levels, reduce the scenic quality of the valley and vicinity, and reduce overall ecological diversity in the surrounding community area.

FREEDOM OF INFORMATION ACT CONSIDERATIONS:

Public comments submitted for this environmental assessment, including names and street addresses of respondents, will be available for public review at the Palm Springs-South Coast Field Office during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

PERSONS / AGENCIES CONSULTED:

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